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# Dahlias the Popular Fad of the Day

Ease of Culture Readily Wins Popular Favor—A Treatise on This Most Wonderful Outdoor Flower.

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We are now entering the era of the dahlia fad, which is fast surpassing that of all other flowers. The fanciers and flower lovers of the day are turning to this wonderful flower, realizing the possibilities of the dahlia for competitive exhibition, home beautifying and landscape effect.

There is no other flower that will respond so quickly to your care, give you such a variety of color and form and has a wider range of uses.

As a cut flower the dahlia holds sway from the beginning of September until killing frosts, being used in the most elaborate and fashionable decorations.

It also plays a big part in nature's work, and will prove a source of delight in your own garden.

The selection of the best and most satisfactory varieties is indeed a puzzling question for the amateur and professional with the thousands of varieties catalogued. It is not necessary or advisable for the amateur just starting with dahlias to buy high-priced varieties of today ranging from \$5 to \$25 and \$50, neither is it best to buy anything at all until the directions and suggestions are given to culture alone, as much of your success depends upon good healthy stock.

It is needless to give a lengthy description of the novelties and standard varieties which are illustrated and described in the many dahlia catalogues issued, and will gladly be sent upon request.

After years of experience the following article may solve a few cultural problems and endeavor to explain each phase of the culture as carefully as possible, but the directions and suggestions should be read in connection with the location, fertility of the soil and climatic conditions. However, I believe the theories in general will hold good.

## Preparation of the Soil.

Dahlias will grow well in almost any kind of soil from a light sandy loam to a stony clay. They should be planted where they will have at least three or four hours of sunshine each day, and where there is a trench in the tree roots which use much of the moisture and plant food.

Essential need is drainage. Sandy loam needs no consideration in this respect, but heavy soils do. If the ground is very sticky when wet and slow to drain it will be greatly improved by digging it at least 18 inches deep and mixing with the subsoil a quantity of litter, such as old dahlia stalks, grass, more litter and not too much manure or compost. This will decay and form plant food to not be lost. If the soil is so sticky as it contains too much free ammonia and is too hot. Coal ashes, especially the coarse part, may be dug in to neutralize drainage. The coarse coal ashes should be saved for top dressing. This is best done by digging the garden up one inch and then the other. The soil should be thrown back for a space of two feet half the width of the plot and left until the digging is complete. Now dig down the topsoil into the subsoil and cover with the topsoil from the adjoining plot to the bottom. Then repack. By this method of digging you will only have to move the majority of your topsoil once and will finish near where you started and the topsoil will fill in with. Should you be preparing a single row, it will be advisable to throw the topsoil to the side and use the litter and compost into subsoil. Then throw the top soil back. If the subsoil is poor do not mix it with the topsoil. May is the very best time to dig the dahlia culture. If the ground is fertile with good drainage and has been worked deep during the previous years it is not necessary to dig in much, if any, litter or manure. Spade deep and apply top dressing as follows:



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## Fertilizing.

Apply broadcast on top of the soil and mix well in the surface one pound fine raw bonemeal, one to two pounds unleached wood ashes or one-fifth pound muriate of potash (not both) to every 20 square feet or equivalent to two hills. Wherever the ground is sour enough to show moss in a wet spell apply one pound of lime to every 20 square feet, although the lime will not hurt the soil if it is not really needed.

The above preparation should be completed a week or more before planting, and the ground wet down. If Nature has failed to assist you in this, Allow to drain thoroughly before planting the roots.

Fertilizing as above directed will supply the dahlia's needs well through the summer. See additional fertilizing.

## When to Plant.

One of the most common errors in the culture of dahlias is too early planting. In the latitude of Philadelphia dahlias should never be planted before May 15, the first two weeks of June being preferable. Farther north, where the hot spells in July and August are less harmful and early frosts are prevalent, plants as soon as danger of frost is over.

## Dividing Roots.

If dahlia roots do not show sprouts by the beginning of May and are partially dried or shriveled place them in a cool or shady place and cover with moist dirt or sand. When sprouts appear the roots are ready for dividing and planting. If sprouts are over six inches long when you take them from the cellar cut back to one inch before dividing.

Large clumps should never be planted whole. The size of the root does not indicate the success of the plant, as a division of one or two tubers with a piece of the crown showing a sprout is the best to plant and will make a better growth than a larger clump for next year's planting. A root without a part of the crown will not grow, as the only eyes are around the crown.

Dahlias should be planted in a trench or hole six inches deep, laid flat down (not on end) and covered with earth not over two inches in depth, filling in as the plant develops. Do not plant the roots in or over any quantity of compost or hot manure.

The rows should be from four to five feet apart and the plants in the row from two to three feet apart; or from six to ten square feet should be allowed for each plant in garden culture.

## Cut Worms.

If your garden is infested with cut worms, which is usually the case in an old sod, an application of the following mixture scattered over the infested area after planting the roots, or before setting growing plants, will be found very effective. One to three cups per net-lasses or brown sugar, one teaspoonful plain green. Mix together and stir in enough water to make a reasonably dry mash.

## Cultivation.

Work and weeds are a blessing to mankind, but few of us look at it that way. Although I am not recommend-

ing the sowing of weed seed in the culture of dahlias, I am sure our gardens and fields would not be cultivated and stirred as frequently were it not for the fear of weeds.

What healthier and more enjoyable pastime can anyone have than caring for a few dahlias that will respond so readily to a little care and will more than reward you for your special attention, as outlined in this article?

Thorough cultivation is of the utmost importance, and if properly done eliminates much of the need of irrigation.

Cultivate at least once a week, and as soon after each rain as the ground can be worked without becoming lumpy. Work the ground rather deep all over the surface. This brings air into the soil, which is very beneficial to plant growth. As the plant develops and the roots come toward the surface the ground badly in sun and wind. Most harmful to the hill for the radius of at least a foot. Still work the balance of the ground rather deep and bring some fresh soil to the plant at each hoeing, giving the plant a new supply of food and protecting the surface roots from the heat of the sun. Have the hills mounded five or more inches by the middle of September. Do not think it is necessary to grow a dahlia stalk in a crater so it can be watered, as the feed roots radiate from the ends of the tubers, and as a rule are from 10 to 15 inches from the stalk.

## Irrigation.

I believe there is more difference of opinion with dahlias growers in regard to watering than any other phase of the culture. Do not sprinkle with the hose every night or so, for it will only pack the surface of the ground, preventing the air from circulating in the soil, and then the moisture is taken up by the sun the next day. This causes a soft rapid growth which wilts very early in sun and wind. Most harmful of all, it draws the feed roots to the surface for moisture, and the excessive heat dries them.

On the other hand, follow nature more closely. We do not have a shower every night or so. If we did, we would have most air blowing over the plants, which would not wilt them, but the air coming into an irrigated area of even acres is dry and not during a dry spell and the plants will wilt some. This is the reason why irrigation is not as good as a natural rain.

Do not water until it is necessary, for when the habit is started it must be kept up, or more harm than good will be done. The ground should be open and well worked before irrigating.

Water with a revolving sprinkler or any other available way. The Skinner overhead system is very satisfactory in eight acres here. The ground should be gently sprinkled so that the water will be above the ground and not in it will not puddle. If possible, continue this for two afternoons and evenings, or, better still, all night, or until the ground has been wet down from six to eight inches. Then when the ground mellow enough cultivate as you would after a rain. Do not irrigate again until it is really necessary, which should range from one week to 10 days, according to winds and weather.

## Irrigation in the Heat of the Day.

Opinion varies on this phase also, but

judge for yourself as to the health of the plant. It is a recognized fact that sprinkling in the heat of the day will cause the flowers to scald, as the sun's rays are focused by the drops of water and burn the petals. In bright sunlight, with the mercury at 120 degrees, which is not uncommon, spray the plants with water at a temperature of 60 degrees and imagine the shock. If they were human they would make such a noise sneezing that the whole neighborhood would be aroused. Should you start irrigating in the early morning and keep the plant cool through the day the danger of injury would be lessened, outside of a little burning of the flowers, which are never very good in a dry, hot spell. Therefore, late afternoon or evening is found the best time for irrigation.

## Pruning and Disbudding.

The first step in pruning and disbudding is to start your bush in the right form. With an apple tree you would cut off the side branches until the tree was high enough to head and allow to develop only the branches that will make a shapely tree, but with a dahlia bush is preferable, although some people grow dahlia trees simply because they want to grow so many in a small yard that the only place to bloom is on top, so up they go, the survival of the strongest.

To get a bush allow only one stalk to grow (never more than two). Pinch out the crown when the stalk is eight to 12 inches high. This will throw the strength into the next two lower eyes. These will make themselves very evident in surprisingly short time, and these shoots or most varieties should be pinched back again, leaving one pair of eyes on each branch. By the time these get a start the second set of eyes on the main stalk will wake up and see they are going to have a chance and will come along with the four above. These six stems should bear the first six flowers. When the terminal bud on each one of these stems is about the size of your finger, pinch it off by taking out the side buds and shoots except the last pair on each of the top four stems. On the bottom two stems leave four buds each and by that time another pair will have started from below. This early disbudding and pruning is not solely for the benefit of the first six stems, as they may be early in the season when flowers are not at the height of perfection, but it is mainly for the health and vigor of the future crop. There will be 18 buds for your second crop of flowers and by removing all other buds the entire strength of the bush will be centred on the first six flowers and the next 18 buds. If you want extra large flowers you can reduce this number to about four, and by that time another pair will be starting from below. This is the second crop, but commercially the former method is used. Twenty-four blooms, however, is no more than the time for the first crop as Break of Day, for when the second crop is cut one or two eyes are left on most of the stems and a third crop should contain a dozen or two more. Thirty to 40 blooms on 18-inch stems have been cut from many bushes of Break of Day in eight weeks' cutting.

**Excessive Branching.**

Some varieties, such as Pierrot, Crystal and Francis White, branch to excess. If, instead of pinching out more than once, should be thinned out and not more than six shoots allowed to come into bloom for the first flowers. About every two weeks they should be thinned out again. If you have not tried this you will be surprised with the results. It does a dahlia bush no harm to take out one-fourth to a third of the bush at a pruning. More than this will cause a number of new shoots to start, only making matters worse instead of better.

**Additional Fertilizing.**

If we knew just what the soil contained and the amounts of each element the plants required, fertilizing would be the easiest of all our studies, but in general it is more a matter of theory than pounds and ounces.

The prime elements necessary for plant growth which are at least partially under our control are hydrogen, nitrogen, phosphoric acid and potassum.

Hydrogen has been discussed in relation to drainage, and again under irrigation. Nitrogen has been partially dealt with in the recommendation of digging litter and compost into the sub-soil, also by a top dressing of bonemeal before planting time. These should gradually supply nitrogen throughout the season, but after the buds have formed, a light top dressing of manure about one pound to two or three hills will increase the size of the flowers. Do not use in excess, as this will make the flowers soft, an abnormal bush growth and lowers the vitality of the roots for the next season. Pulverized sheep or goat manure is very desirable in dahlia forcing, as the nitrogen is available so readily, and the potash and phosphoric acid are a good addition at this time.

It is really surprising how much nitrogen a plant will stand in the form of humus or manure if it is balanced with the right amount of hydrogen, phosphoric acid and potash.

Nitrate of soda produces a chemical nitrate and quick in action starting in about two days, and is not consumed in two weeks of hot weather. The results are strikingly similar to a person taking a stimulant, it serves as a stimulant, not a food. However, there are times when a stimulant is essential but in dahlia culture where water is available it is much better to derive the nitrogen from animal manures, which furnish food as well.

In manures, bone and humus the nitrogen is liberated by the action of the acids of the soil or a form of decomposition. As this is gradual, there is a steady supply of nitrogen and the matter which has not fully decomposed in one season will be held in the soil until the next year. This is the only form of nitrogen which holds in the soil from one year until the next, therefore is the best way of building the soil.

**Phosphoric Acid.**

Manure or compost if dug in the soil will contain some phosphoric acid but the bone top dressing should contain between 20 and 25 per cent. available phosphoric acid and the manure top dressing about 2 per cent. This will supply the plant with at least two ounces of available phosphoric acid, and as much more will be made available by the soil action. It is very essential to have plenty of phosphoric acid, as it seems to back up the growth made by nitrogen. Heavy feeding of nitrogen and hydrogen with the phosphoric acid and potash, it balance it will grow immense bushes, large soft flowers, but the tuber growth will be very weak and poor from the lack of nourishment, all the strength having been taken by the bushes.

**Potash.**

One to two pounds of unleached wood ashes or one-fifth pound of muriate of potash to every 20 square feet, along with the 1 per cent. potash in the manure should supply about three-fourths of an ounce of available potash per plant, or 200 pounds per acre. This will give color to the flowers, a dark green leathery foliage, and a substantial root growth.

The amateur cannot expect a dahlia to come to its height of perfection if poorly cared for, as dahlias will run upon centre and off color, through no fault of the stock, if they are badly neglected.

**Disease in Dahlias.**

The disease most prevalent and worthy of consideration is Mosaic or running out, which manifests itself in a stumpy growth, the lower leaves turn yellow, and the bush is apparently ready to die.

Upon examination of the lower stem and tubers the second or middle skin is found to be discolored, streaked with brown, and the outer skin cracked, showing brown in every crack. This I started digging and destroying 15 years ago in my first row of dahlias. I did not know what was wrong, but did this on the principle that one's time is much better spent taking care of the healthy bushes than nursing the sick. If this were practiced throughout the country we would have very little Mosaic today, as the percentage each year is decidedly decreasing, showing that this discarding is a successful way toward the eradication of this disease. If the thrip is very bad or the dahlias are neglected they may appear to have Mosaic or they may even contract it.

Keep the plants healthy, clean and vigorous, and your path will be strewn with dahlias.

Good varieties, healthy stock and the proper care are sure to give untold results and pleasure.

**Thrip.**

During the hot dry spells the thrip is always most active and the injury to the tender buds causes them to dry and die. Irrigation at this time seems to give them off to some extent, also the healthier the bushes the less damage can be done.

The thrip can be killed by spraying with Black Leaf 40 and Whale Oil Soap at the prescribed proportions on the packages, only use both together. Spraying the foliage will do no good unless you hit the thrip directly with the spray, which is very hard to do, as they fly at the least disturbance. When the weather becomes cooler they seem to disappear, and as the dahlias are not very good during the cool weather their damage is only minor unless they kill out certain bushes and drain their vitality by sucking the sap. Then it is advisable to spray good, and then thin out the bushes to give them a new start.

The dahlia is not susceptible to the ravages of insects like other plants, and is therefore of comparatively easy culture.

**Cut Flowers.**

In cutting dahlias, do not make the usual mistake of waiting until the buds are fully open, but cut them while the centre yet to unfold. Cut in this way, the flowers should last at least a week with care. Some prefer to have all the buds and foliage remain on the stem, which adds to the beauty of the bouquet, but will cause the flowers to wilt and die much quicker than if all the buds and most of the foliage are removed.

The physical action of a cut flower is to take water up into the stem which evaporates through the flowers and foliage. The slower this action of evaporation or transpiration takes place the longer the life of the flower.

Flowers should be cut in the evening or early morning, and immediately put in water in a cool, dark place for an hour or two before being arranged in the house. Should you wish to send them to your friends, leave in water until fully freshened, then pack in a corrugated pasteboard box lined with tissue paper, fasten the stems down securely at centre of the box by nailing in a wooden strip, sprinkle lightly and close up airtight. Use a substantial package, packing the flowers so as to fill the box so that they cannot rattle, but not too tight, and ship on the best mail trains. Following these directions parcel post is very satisfactory.

Dahlias have lasted a week after being sent from Vineland, N. J., to Detroit, Mich. If flowers should be wilted after a delay in transit, or by being in too warm a room, place the stems in hot water, not over an inch in depth; after water cools, if flowers are not sufficiently freshened, this can be repeated two or three times, by cutting off the discolored ends of the stems with a sharp knife, and placing them in hot water again. When fully freshened cut the stems and place them in cold water. Cut stems and change water daily on any cut flowers.

**Digging and Storing.**

After the first killing or black frost, cut off the tops at the ground. It is about a week after the frost, a garden fork being preferable for this work, turning them in the sun long enough to dry off, and free the earth, but do not freeze them free. When only a few weeks are to be stored, wrap each variety in paper, punching a couple of holes, the size of your thumb, through the paper for ventilation, then pack in an open crate and place in a cellar where there is no danger of frost, and not near a

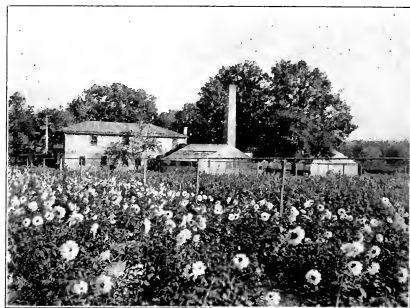
heater. A cool moist cellar, one in which white potatoes keep well, will be very satisfactory for dahlia roots.

After the roots have been stored about a month, look them over, and if they show signs of drying up, cover them

with bagging or litter, and wet the floor around them occasionally. If they show signs of wet rot, dry them off with plaster paris or fine coal ashes, then wrap them again in dry paper, punching more holes for ventilation.



FIELD OF BREAK O' DAY



DAHIADEL NURSERIES